

WHAT IS CLAIMED IS

1. A method for printing a polyolefin film comprising the steps of:

(a) blending a coloring agent with a polyolefin;

5 (b) extruding said blend of step (a) onto a casting roll to form a colored extruded film;

(c) orienting said colored extruded film of step (b) in at least one direction to form an oriented film;

(d) passing said oriented film of step (c) to a digital printer; and

10 (e) passing a digital signal to said digital printer to cause indicia to be placed on the surface of said oriented film.

2. A method according to claim 1, wherein said digital printer is an ink jet digital printer.

15 3. A method according to claim 2, wherein said ink jet digital printer applies UV curable ink to said oriented film, and wherein said UV curable ink is cured by applying ultraviolet light to the ink jet printed film.

20 4. A method according to claim 3, which is conducted in a continuous in-line operation, wherein the extruded film of step (b) is maintained in web form without being wound up into a roll until after said UV ink is cured.

5. A method according to claim 3, wherein steps (a), (b) and (c) are conducted in a single line operation where a roll of unprinted film is produced.

25 6. A method according to claim 5, wherein steps (d) and (e) are conducted in a single packaging or labeling line operation, wherein said roll of unprinted film is unwound; steps (d) and (e) are conducted to form a printed, unwound film; and the printed, unwound film is converted into packages or labels without being
30 rewound into a roll of printed film.

7. A method according to claim 1, wherein steps (a) and (b) comprise:

(i) coextruding a colored skin layer comprising a polyolefin blended with a coloring agent adjacent to an opaque core layer comprising polypropylene and a cavitating agent;

(ii) orienting said colored skin layer and said opaque core layer in the machine direction; and

(iii) orienting said colored skin layer and said opaque core layer in the transverse direction,

and wherein indicia is placed on the surface of said colored skin layer in step (e).

8. A method according to claim 1, wherein steps (a) and (b) comprise:

(i) coextruding a skin layer comprising a polyolefin, a colored transition layer comprising a polyolefin blended with a coloring agent, and an opaque core layer comprising polypropylene and a cavitating agent, wherein said colored transition layer is between said skin layer and said opaque core layer;

(ii) orienting said skin layer, said colored transition layer and said opaque core layer in the machine direction; and

(iii) orienting said skin layer, said colored transition layer and said opaque core layer in the transverse direction,

and wherein indicia is placed on the surface of said skin layer in step (e).

9. A method according to claim 1, wherein the film is coated with a print enhancing coating prior to step (d).

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10. A method according to claim 9, wherein the film is coated with a primer prior to being coated with said print enhancing coating.